

Anti-corrosion Bullet Camera

Quick Start Guide

V1.0.1

Cybersecurity Recommendations

Mandatory actions to be taken towards cybersecurity

1. Change Passwords and Use Strong Passwords

The number one reason systems get “hacked” is due to having weak or default passwords. It is recommended to change default passwords immediately and choose a strong password whenever possible. A strong password should be made up of at least 8 characters and a combination of special characters, numbers, and upper and lower case letters.

2. Update Firmware

As is standard procedure in the tech-industry, we recommend keeping NVR, DVR, and IP camera firmware up-to-date to ensure the system is current with the latest security patches and fixes.

“Nice to have” recommendations to improve your network security

1. Change Passwords Regularly

Regularly change the credentials to your devices to help ensure that only authorized users are able to access the system.

2. Change Default HTTP and TCP Ports:

- Change default HTTP and TCP ports for systems. These are the two ports used to communicate and to view video feeds remotely.
- These ports can be changed to any set of numbers between 1025-65535. Avoiding the default ports reduces the risk of outsiders being able to guess which ports you are using.

3. Enable HTTPS/SSL:

Set up an SSL Certificate to enable HTTPS. This will encrypt all communication between your devices and recorder.

4. Enable IP Filter:

Enabling your IP filter will prevent everyone, except those with specified IP addresses, from accessing the system.

5. Change ONVIF Password:

On older IP Camera firmware, the ONVIF password does not change when you change the system’s credentials. You will need to either update the camera’s firmware to the latest revision or manually change the ONVIF password.

6. Forward Only Ports You Need:

- Only forward the HTTP and TCP ports that you need to use. Do not forward a huge range of numbers to the device. Do not DMZ the device's IP address.
- You do not need to forward any ports for individual cameras if they are all connected to a recorder on site; just the NVR is needed.

7. Disable Auto-Login on SmartPSS:

Those using SmartPSS to view their system and on a computer that is used by multiple people should disable auto-login. This adds a layer of security to prevent users without the appropriate credentials from accessing the system.

8. Use a Different Username and Password for SmartPSS:

In the event that your social media, bank, email, etc. account is compromised, you would not want someone collecting those passwords and trying them out on your video surveillance system. Using a

different username and password for your security system will make it more difficult for someone to guess their way into your system.

9. Limit Features of Guest Accounts:

If your system is set up for multiple users, ensure that each user only has rights to features and functions they need to use to perform their job.

10. UPnP:

- UPnP will automatically try to forward ports in your router or modem. Normally this would be a good thing. However, if your system automatically forwards the ports and you leave the credentials defaulted, you may end up with unwanted visitors.
- If you manually forwarded the HTTP and TCP ports in your router/modem, this feature should be turned off regardless. Disabling UPnP is recommended when the function is not used in real applications.

11. SNMP:

Disable SNMP if you are not using it. If you are using SNMP, you should do so only temporarily, for tracing and testing purposes only.

12. Multicast:

Multicast is used to share video streams between two recorders. Currently there are no known issues involving Multicast, but if you are not using this feature, deactivation can enhance your network security.

13. Check the Log:

If you suspect that someone has gained unauthorized access to your system, you can check the system log. The system log will show you which IP addresses were used to login to your system and what was accessed.

14. Physically Lock Down the Device:

Ideally, you want to prevent any unauthorized physical access to your system. The best way to achieve this is to install the recorder in a lockbox, locking server rack, or in a room that is behind a lock and key.

15. Connect IP Cameras to the PoE Ports on the Back of an NVR:

Cameras connected to the PoE ports on the back of an NVR are isolated from the outside world and cannot be accessed directly.

16. Isolate NVR and IP Camera Network






The network your NVR and IP camera resides on should not be the same network as your public computer network. This will prevent any visitors or unwanted guests from getting access to the same network the security system needs in order to function properly.

General

This Quick Start Guide (hereinafter referred to be "the Guide") introduces installation preparation, camera installation, and daily maintenance for anti-corrosion bullet camera.

Safety Instructions

The following categorized signal words with defined meaning might appear in the Guide.

Signal Words	Meaning
 DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
 TIPS	Provides methods to help you solve a problem or save you time.
 NOTE	Provides additional information as the emphasis and supplement to the text.

Revision History

No.	Version	Revision Content	Release Time
1	V1.0.0	First Release.	April 17, 2018
2	V1.0.0	Installation Updated.	June 27, 2018

Privacy Protection Notice

As the device user or data controller, you might collect personal data of others' such as face, fingerprints, car plate number, Email address, phone number, GPS and so on. You need to be in compliance with the local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures include but not limited to: providing clear and visible identification to inform data subject the existence of surveillance area and providing related contact.

About the Guide

- The Guide is for reference only. If there is inconsistency between the Guide and the actual product, the actual product shall prevail.
- We are not liable for any loss caused by the operations that do not comply with the Guide.
- The Guide would be updated according to the latest laws and regulations of related regions. For detailed information, see the paper manual, CD-ROM, QR code or our official website. If there is inconsistency between paper manual and the electronic version, the electronic version shall prevail.
- All the designs and software are subject to change without prior written notice. The product updates might cause some differences between the actual product and the Guide. Please contact the customer service for the latest program and supplementary documentation.
- There still might be deviation in technical data, functions and operations description, or errors in print. If there is any doubt or dispute, please refer to our final explanation.
- Upgrade the reader software or try other mainstream reader software if the Guide (in PDF format) cannot be opened.
- All trademarks, registered trademarks and the company names in the Guide are the properties of their respective owners.
- Please visit our website, contact the supplier or customer service if there is any problem occurred when using the device.
- If there is any uncertainty or controversy, please refer to our final explanation.

Important Safeguards and Warnings

The Guide helps you to use our product properly. Read the Guide carefully before installing and using the product, and we highly recommend you to keep it well for future reference.



WARNING

- Please make sure the power requirement is in accordance with that on the device nameplate before providing power to the device.
- A control cable about 1 meter long is reserved when the device is delivered out of factory. Use anti-corrosion flexible tube when it is connected to the anti-corrosion control cabinet.
- Both internal and external ground connection should be reliable.
- Please cut off the power before device maintenance and overhaul.
- Please keep the product packing container properly which can be used during transportation in the future.
- Check the tectonic intensity of installation space and site, which means 8X safety factor is required.
- Please contact the local distributor or service center if the device fails to work normally. Do not dismantle or modify the device by any means (our company is not liable for any problems caused by unprofessional modification or maintenance).

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Open-Package Inspection

1.1 Inspection Steps

When you receive the camera, please first check if there is any obvious damage to the device appearance and the protection material on the product package can sustain most accidental impact during transportation. Then you need to open the outer packing container and check if all the accessories are included. Refer to Table 1-1 to check all the accessories.

1.2 Attached Accessories

Please confirm if the accessories are in accordance with that on the list when opening the outer packing container. Please refer to the following table for more details.

Refer to the exact product for the actual configuration, and please contact local distributor if there is any accessory lost.

Table 1-1 Accessories

Accessory Name	Quantity
Anti-corrosion Camera	1
Sunshield	1
Quick Start Guide	1
CD	1
Appendage Package	1

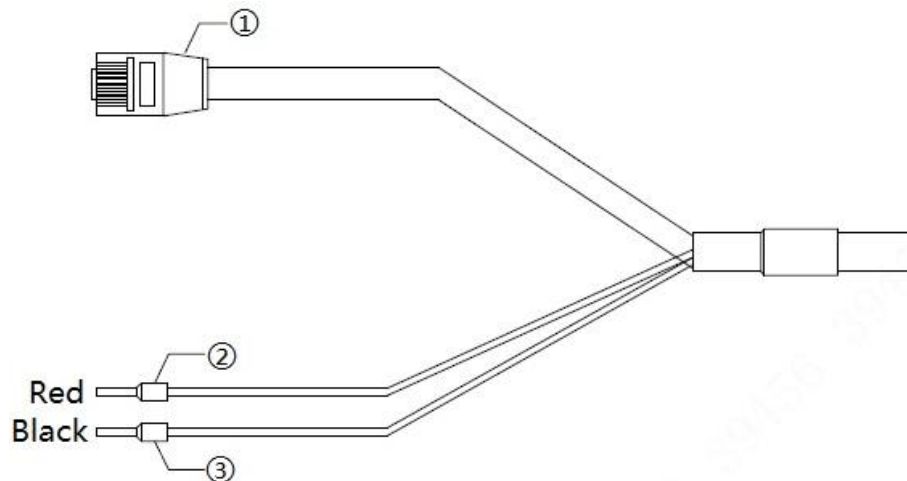
2.1 Brief Introduction

Anti-corrosion camera is a new generation of anti-corrosion monitoring device, which adopts more advanced manufacturing technique and makes the product quality, performance, and appearance take the leading position within the same type product. The device structure adopts new design and convenient installation after which it won't affect the overall aesthetics of the monitoring scene. Besides, it is also equipped with several features like clear image, digitalization, intelligence, easy installation, and so on.

The product can be widely applied to the locations which need acidic and neutral salt mist, and it has high requirements for the image quality, which hopes to see the various details of the target, such as chemical industry, smelting, shipbuilding, port, and other locations.

2.2 Port Description

Figure 2-1 Camera port



See Table 2-1 for details about port functions.

Table 2-1 Port description

No.	Port Name	Function Description
①	Network port	Connects to standard Ethernet network; provides PoE power supply.
②	Power input	Number 2 (Red) for DC 12+
③	Power input	Number 3 (Black) for DC 12-

2.3 Electrical Index

See Table 2-2 for electrical index.

Table 2-2 Electrical index.

Parameter	Index
Input voltage	Supports 12 VDC/PoE-AF.

Max. current	≤ 0.5 A
Power consumption	≤ 5 W
Electrical connection	Complex cable only connects to power and network.

2.4 Mechanical Index

See Table 2-3 for mechanical index.

Table 2-3 Mechanical Index

Parameter	Index
Material	316L stainless steel
Protection level	IP68
Cable exit hole amount	1
Cable exit hole thread specification	M20*1.5mm internal thread
Installation mode	Wall mount and pendant mount

2.5 Environmental Condition

See Table 2-3 for mechanical index.

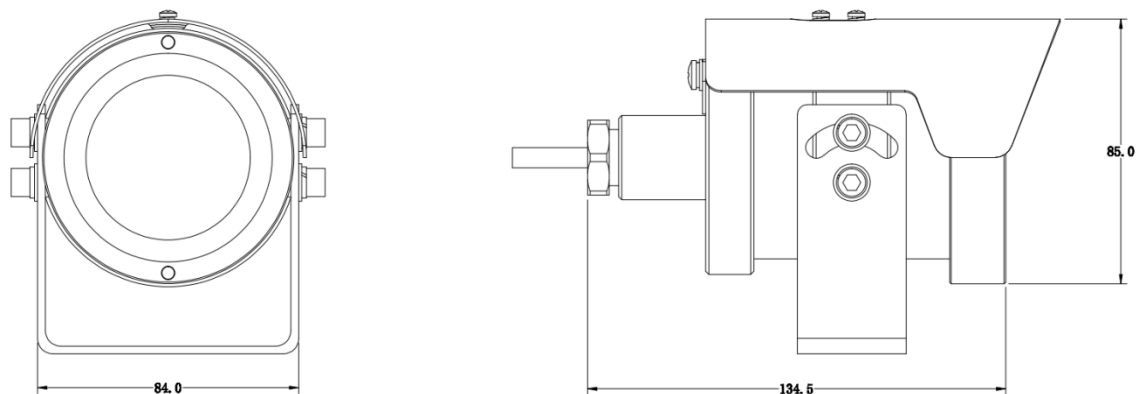
Table 2-4 Environmental Condition

Parameter	Index
Atmospheric pressure	80kPa–110kPa
Environment temperature	-40°C–60°C
Relative humidity	No more than 95%RH (+25°C)

2.6 Product Dimension

See Figure 2-2 for the device dimension.

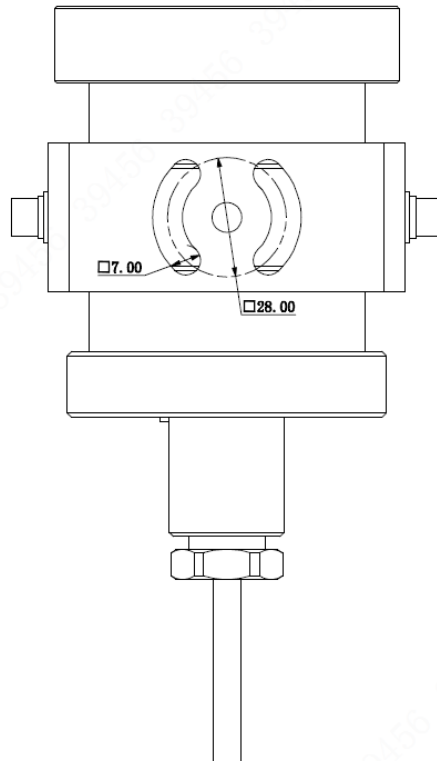
Figure 2-2 Device dimension (Unit: mm)



2.7 Mounting Hole Dimension

See Figure 2-3 for the mounting hole dimension.

Figure 2-3 Mounting hole dimension (Unit: mm)



3

Camera Installation

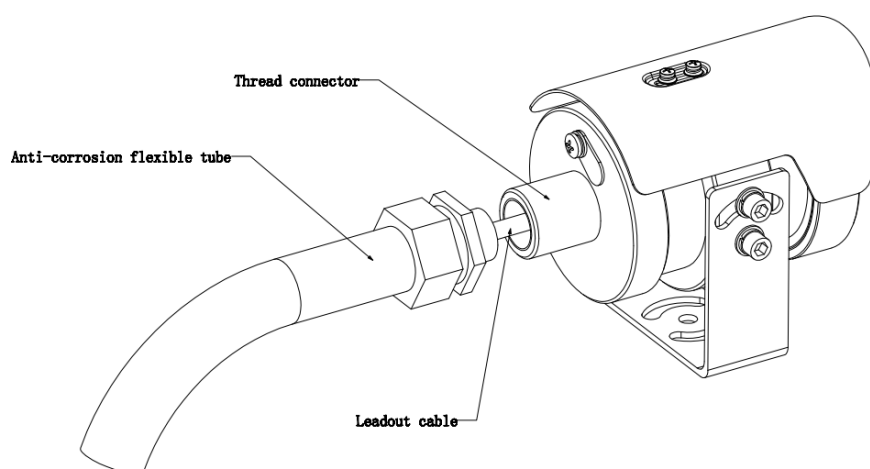
3.1 Cable

3.1.1 Anti-corrosion Flexible Tube

To install the anti-corrosion flexible tube, do the following:

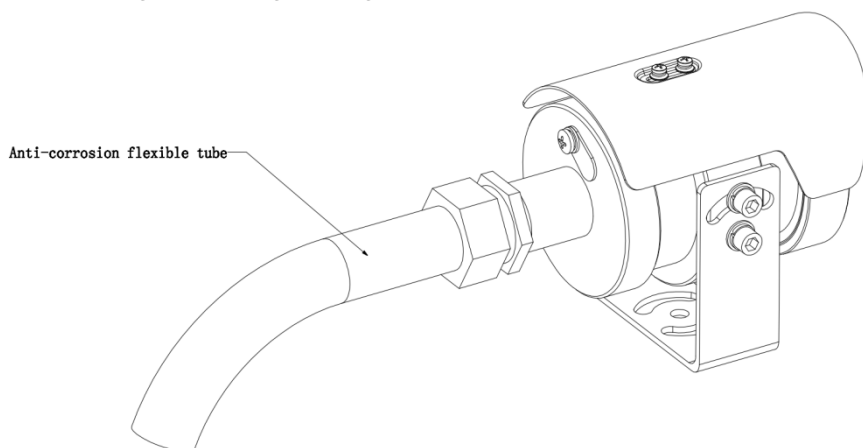
Step 1 Cover anti-corrosion flexible tube component on the cable in advance. See [错误!未找到引用源。](#)

Figure 3-1 Covering anti-corrosion flexible tube on the cable



Step 2 After tightening the thread connector tightly, tighten the anti-corrosion flexible tube. See [Figure 3-2](#).

Figure 3-2 Tightening the anti-corrosion flexible tube



3.2 Installation Method

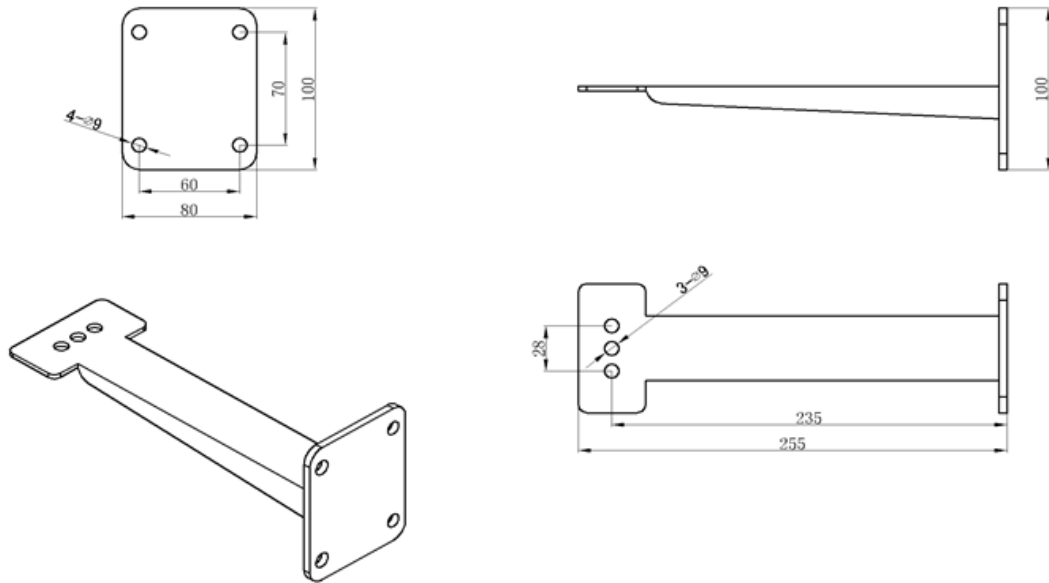


It is advised to debug indoors with power on if possible due to the specificity of anti-corrosion product, it is better to implement on-site installation after getting familiar with the device performance.

3.2.1 Wall Mount

For wall mount, wall-mounted bracket is needed. See Figure 3-3.

Figure 3-3 Wall-mounted bracket



3.2.1.1 Installation Conditions

The wall-mounted bracket is applicable to hard wall in both indoor and outdoor environments.

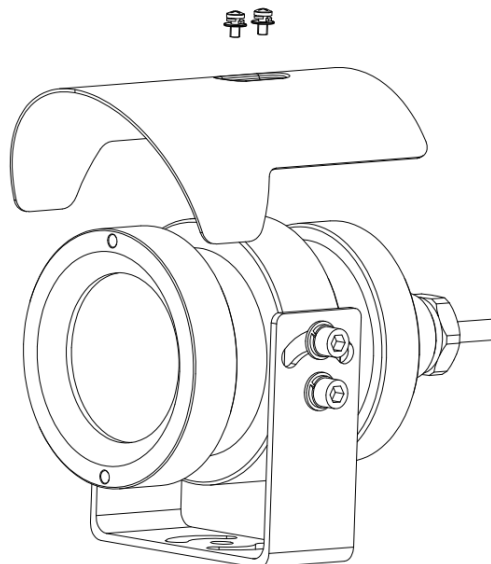
Make sure:

- The wall shall be thick enough to install expansion bolts.
- The wall shall sustain eight times the weight of the speed dome and its mounting accessories.

3.2.1.2 Installation Procedure

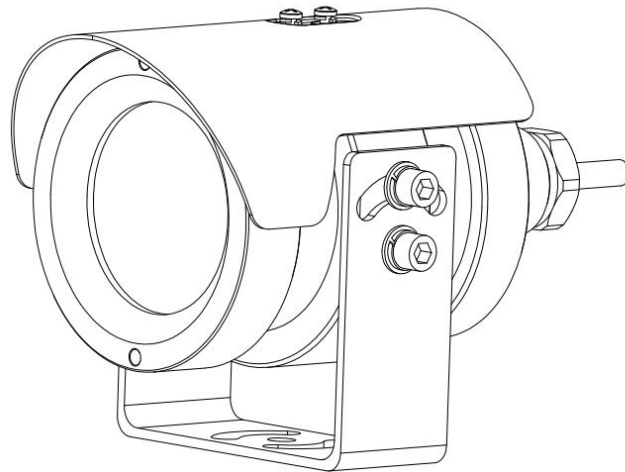
Step 1 Align the hole on the sunshield with the screw hole on the camera. See Figure 3-4.

Figure 3-4 Aligning the hole



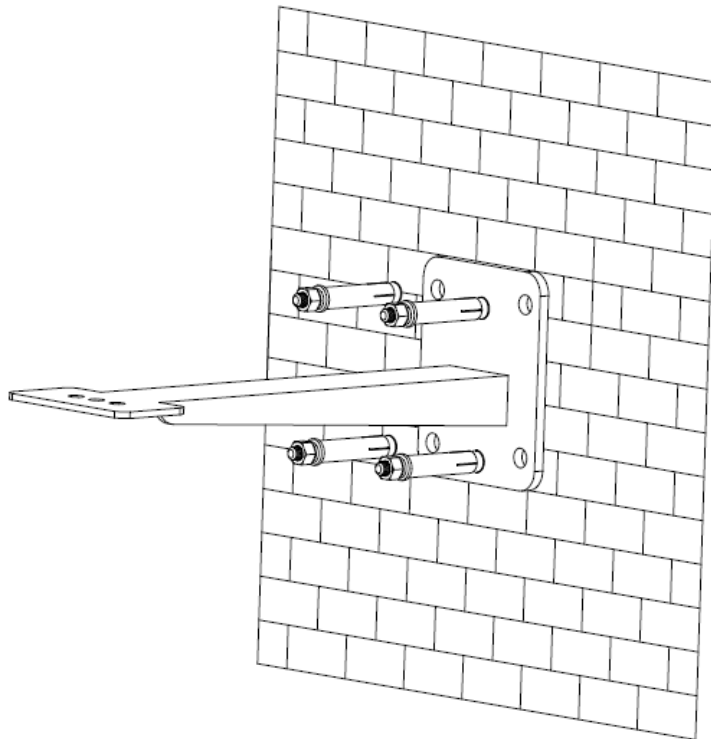
Step 2 Secure the sunshield on the camera with two M3*6 screws. See Figure 3-5.

Figure 3-5 Securing the sunshield on the camera



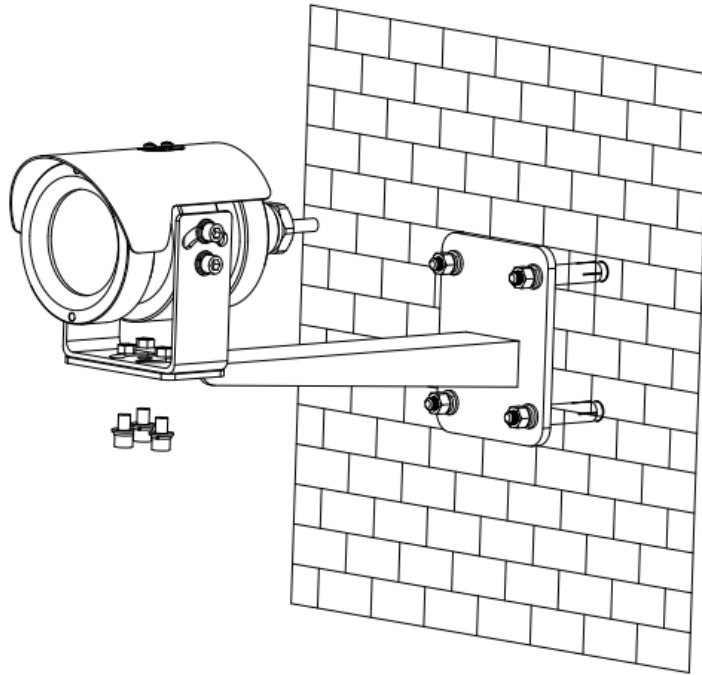
Step 3 Fix the wall-mounted bracket on the wall with four expansion bolts. See Figure 3-6.

Figure 3-6 Fixing the wall-mounted bracket on the wall



Step 4 Fix the bullet camera on the wall-mounted bracket with three bolts. See Figure 3-7.

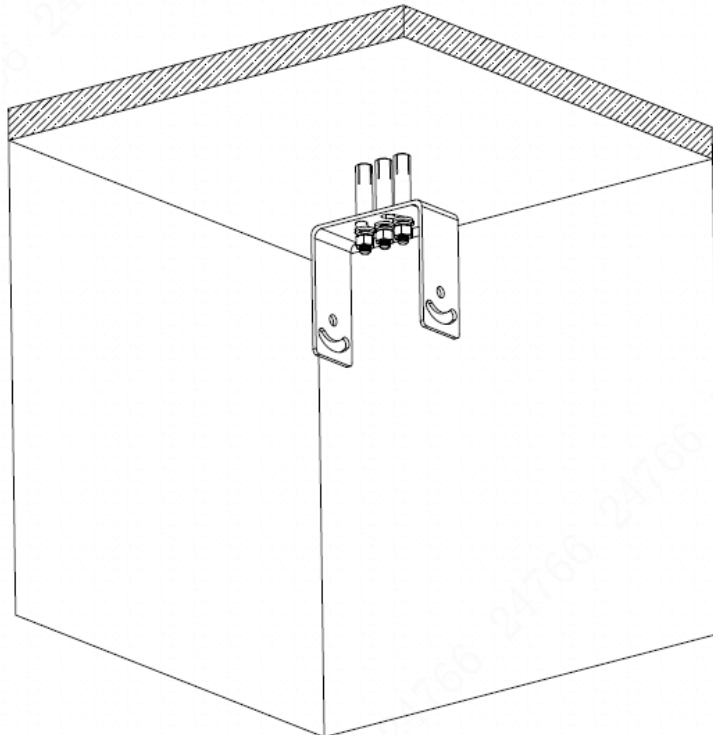
Figure 3-7 Fixing the bullet camera on the wall-mounted bracket



3.2.2 Pendant Mount

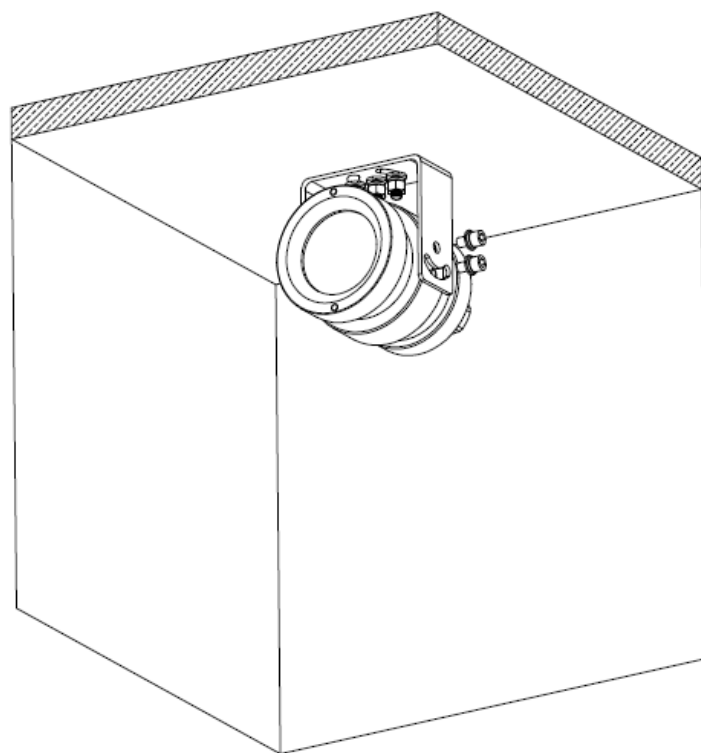
Step 1 Fix the pendant-mounted bracket on the ceiling with three expansion bolts. See Figure 3-8

Figure 3-8 Fixing the pendant-mounted bracket on the ceiling



Step 2 Fix the bullet camera on the pendant-mounted bracket with four screws. See Figure 3-9.

Figure 3-9 Fixing the bullet camera on the pendant-mounted bracket



4 Daily Maintenance

4.1 Regular Cleaning

Clean the cover regularly to get clear image.



- Clean the device with care.
- Hold the camera body with hands, and avoid fingers directly touching the glass surface.
- Clean the glass surface with water.

4.2 Problems and Solutions

Table 4-1 Problems and Solutions

Problem	Cause	Solution
No self-diagnosis or video signal after power supply is connected to the camera.	Red LED light on the power board is not on. <ul style="list-style-type: none">• The power is not connected to the socket on the power board or the connection is loose.• Power supply blackout or transformer malfunction.	<ul style="list-style-type: none">• Check whether the power is connected, and make sure the socket can be well touched.• Check whether power supply is normal and transformer can work normally.
	Red LED light on the power board is on. <ul style="list-style-type: none">• Camera damage.• Power board malfunction.	<ul style="list-style-type: none">• Replace camera.• Please contact supplier and replace power board.
No self-diagnosis and there is noise.	Power supply is inadequate.	Replace proper power supply.
	Mechanical malfunction.	Need maintenance.
Image is not stable	Circuit connection is loose.	Connect tightly.
Video is not clear.	Focus is in manual mode.	Operate the camera.
	The glass is dirty.	Clean the glass.

4.3 Packaging, Transportation, and Storage

4.3.1 Packing Material and Arrangement

The product adopts exclusive carton or wooden box for package and the product surface is covered with foamed plastic padding. Fasten the package with plastic belt after the upper cover is sealed.

4.3.2 Transportation

The packaged product can be applied to various transportation methods as long as it can avoid being caught in the rain directly.

4.3.3 Storage

After the product is packaged, it can be stored in the environment where the temperature is between 0°C and 40°C , and the relative humidity is no more than 90%. The storage life is one year since the day manufactured in the factory.

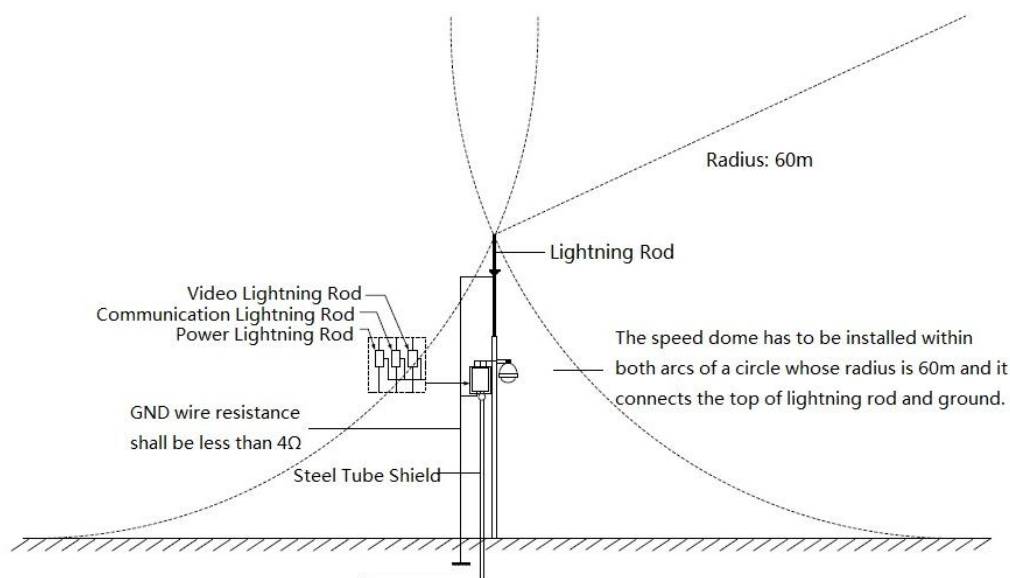
Appendix 1 Lightning Proof and Surge Protection

This series of speed domes adopt TVS lightning protection technology. It can effectively prevent damages from various pulse signals below 6000V, such as sudden lightning. Take necessary safeguard measures when installing the speed dome in the outdoor environment according to your local electrical safety regulations.

- The distance between the signal transmission cable and high-voltage device (or high-voltage cable) shall be at least 50 meters.
- Outdoor cable layout shall go under the penthouse if possible.
- For vast land, please use sealing steel tube under the land to implement cable layout and connects one point to the earth. Open floor cable layout is forbidden.
- In area of strong thunderstorm hit or near high sensitive voltage (such as near high-voltage transformer substation), you need to install additional high-power thunder protection device or lightning rod.
- The thunder protection and earth of the outdoor device and cable shall be considered in the building whole thunder protection and conform to your local national or industry standard.
- System shall adopt equal-potential wiring. The earth device shall meet anti-jamming and at the same time conforms to your local electrical safety code. The earth device shall not short circuit to N (neutral) line of high voltage power grid or mixed with other wires. When connect the system to the earth alone, the earth resistance shall not be more than $4\ \Omega$ and earth cable cross-sectional area shall be no less than $25\ \text{mm}^2$.

See Appendix figure 1-1 for the lightning protection installation method for outdoor anti-corrosion bullet camera.

Appendix figure 1-1 Outdoor installation for outdoor anti-corrosion bullet camera



Appendix 2 Cable Diameter (12 VDC) and Transmission Distance

It is the recommended transmission distance for the fixed-sized cable with attrition rate lower than 10% of 12 VDC. The Max. attrition rate of voltage allowed for DC power supply is 10%. The cables in the following table are all copper cables with electrical resistivity $\rho = 0.0175\Omega \cdot \text{mm}^2/\text{m}$.

Feet (m) Transmission power (W)	mm			
	0.8000	1.000	1.250	2.000
5	122.13 (37.23)	190.83 (58.16)	298.17 (90.88)	763.31 (232.66)
10	61.06 (18.61)	95.41 (29.08)	149.08 (45.44)	381.66 (116.33)
15	40.71 (12.41)	63.61 (19.39)	99.39 (30.29)	254.44 (77.55)
20	30.53 (9.31)	47.71 (14.54)	74.54 (22.72)	190.83 (58.16)
25	24.43 (7.45)	38.17 (11.63)	59.63 (18.18)	152.66 (46.53)
30	20.35 (6.20)	31.80 (9.69)	49.69 (15.15)	127.22 (38.78)
35	17.45 (5.32)	27.26 (8.31)	42.60 (12.98)	109.04 (33.24)
40	15.27 (4.65)	23.85 (7.27)	37.27 (11.36)	95.41 (29.08)
45	13.57 (4.14)	21.20 (6.46)	33.13 (10.10)	84.81 (28.85)
50	12.21 (3.72)	19.08 (5.82)	29.82 (9.09)	76.33 (23.27)
55	11.10 (3.38)	17.35 (5.29)	27.11 (8.26)	69.39 (21.15)
60	10.18 (3.10)	15.90 (4.85)	24.85 (7.57)	63.61 (19.39)
65	9.39 (2.86)	14.68 (4.47)	22.94 (6.99)	58.72 (17.90)
70	8.72 (2.66)	13.63 (4.15)	21.30 (6.49)	54.52 (16.62)
75	8.14 (2.48)	12.72 (3.88)	19.88 (6.06)	50.89 (15.51)
80	7.63 (2.33)	11.93 (3.64)	18.64 (5.68)	47.71 (14.54)
85	7.18 (2.19)	11.23 (3.42)	17.54 (5.35)	44.90 (13.69)
90	6.78 (2.07)	10.60 (3.23)	16.56 (5.05)	42.41 (12.93)
95	6.43 (1.96)	10.04 (3.06)	15.69 (4.78)	40.17 (12.25)
100	6.11 (1.86)	9.54 (2.91)	14.91 (4.54)	38.17 (11.63)

Appendix 3 Wire Gauge Reference Sheet

Metric bare wire diameter (mm)	AWG	SWG	Bare wire cross section (mm²)
0.050	43	47	0.00196
0.060	42	46	0.00283
0.070	41	45	0.00385
0.080	40	44	0.00503
0.090	39	43	0.00636
0.100	38	42	0.00785
0.110	37	41	0.00950
0.130	36	39	0.01327
0.140	35	/	0.01539
0.160	34	37	0.02011
0.180	33	/	0.02545
0.200	32	35	0.03142
0.230	31	/	0.04115
0.250	30	33	0.04909
0.290	29	31	0.06605
0.330	28	30	0.08553
0.350	27	29	0.09621
0.400	26	28	0.1257
0.450	25	/	0.1602
0.560	24	24	0.2463
0.600	23	23	0.2827
0.710	22	22	0.3958
0.750	21	/	0.4417
0.800	20	21	0.5027
0.900	19	20	0.6362
1.000	18	19	0.7854
1.250	16	18	1.2266
1.500	15	/	1.7663
2.000	12	14	3.1420
2.500	/	/	4.9080
3.000	/	/	7.0683